Title: SYSTEM AND METHOD FOR RECOVERING FROM A FAILED SYNCHRONIZATION SESSION
Inventors: Chen et al.
Docket No: M&G 50037.11US01

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Fig. 1

Title: SYSTEM AND METHOD FOR RECOVERING FROM A FAILED SYNCHRONIZATION SESSION
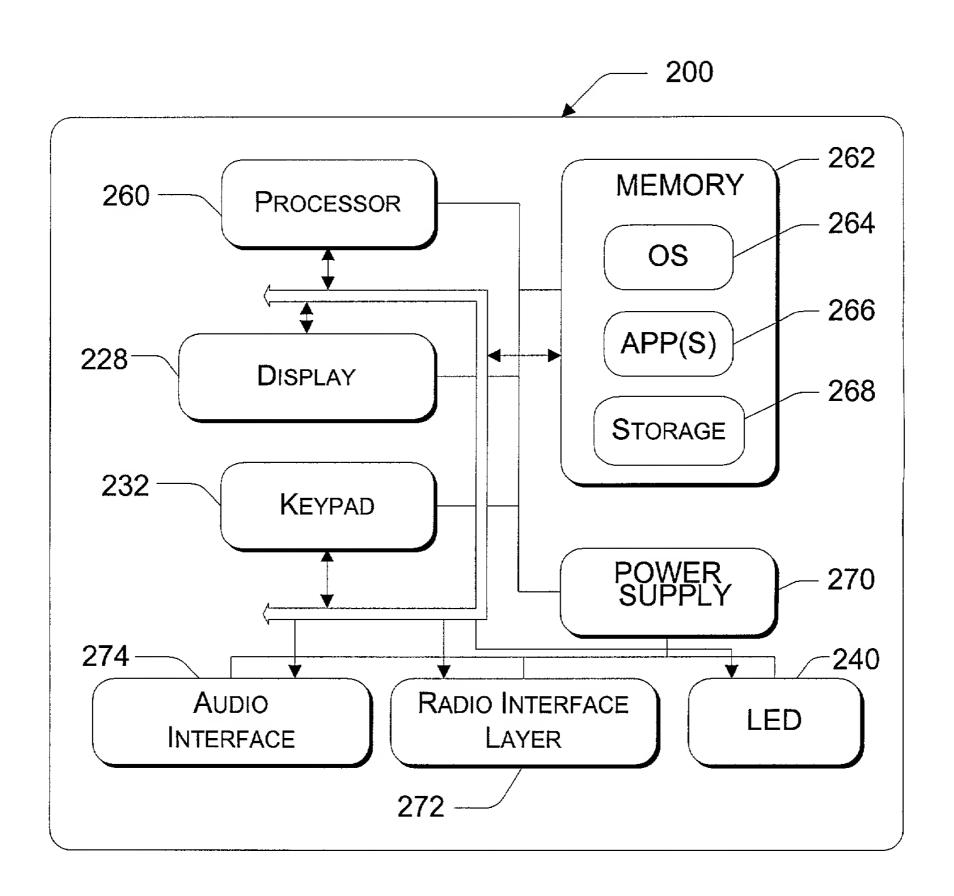Inventors: Chen et al.
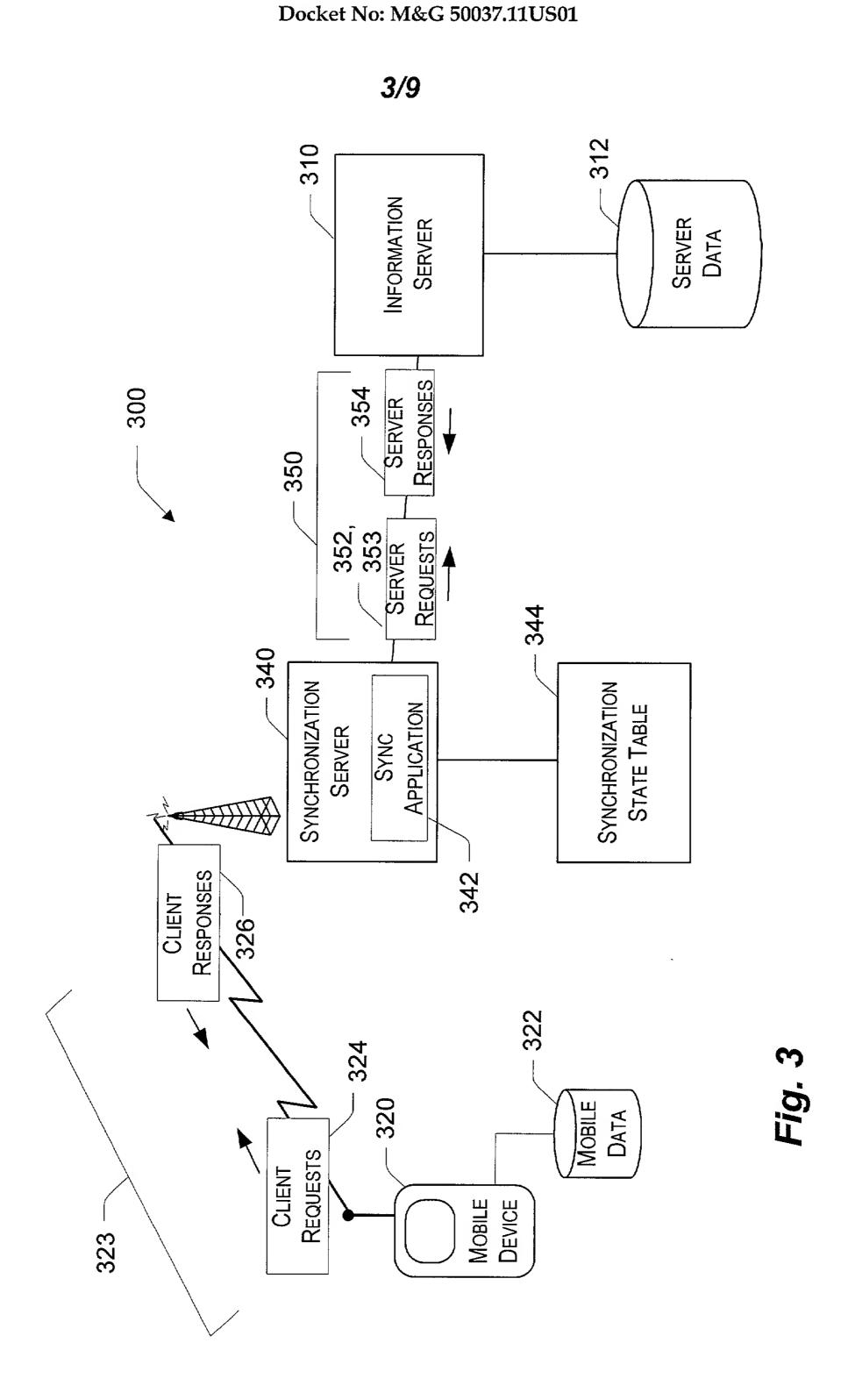Docket No: M&G 50037.11US01

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Fig. 2

Title: SYSTEM AND METHOD FOR RECOVERING FROM A FAILED SYNCHRONIZATION SESSION
Inventors: Chen et al.
Docket No: M&G 50037.11US01
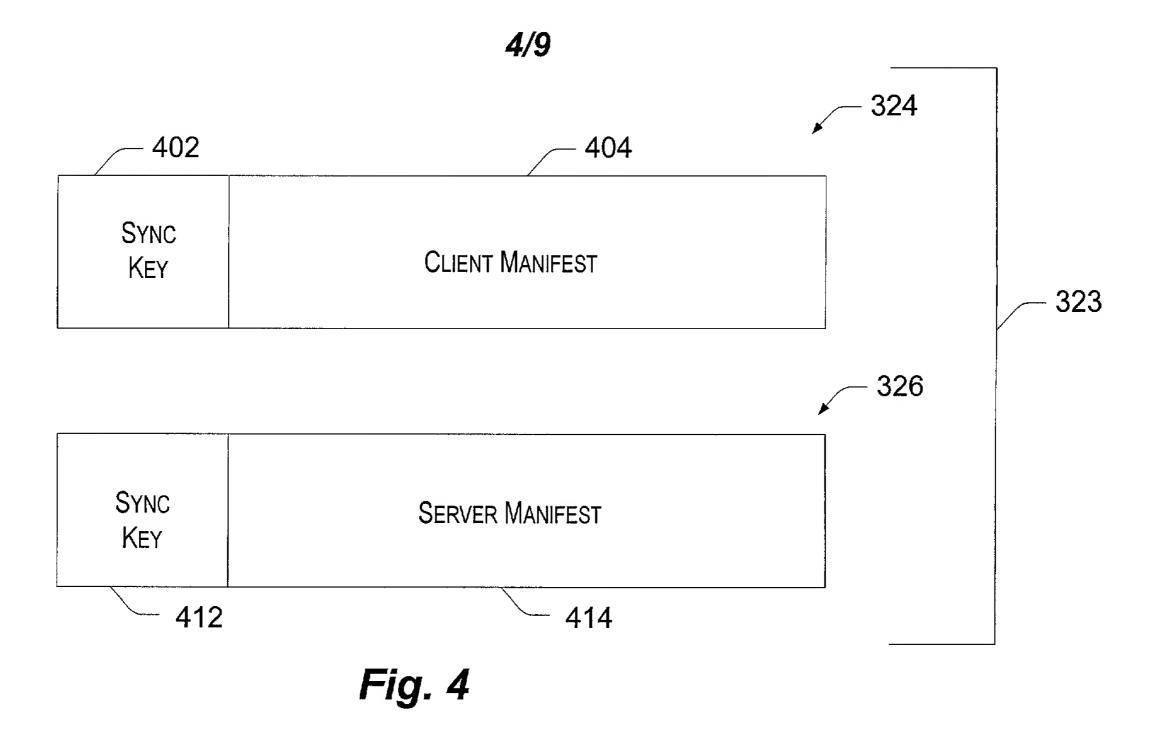
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Fig. 3

Title: SYSTEM AND METHOD FOR RECOVERING FROM A FAILED SYNCHRONIZATION SESSION
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SYNC KEY	CLIENT MANIFEST

402 — 404

324 — 323

SYNC KEY	SERVER MANIFEST

326

412 — 414

Fig. 4

UPDATE MANIFEST

504 — 352

WATERMARK	INCREMENTAL UPDATE

505 — 506 — 353

350

NEW WATERMARK	SERVER MANIFEST

354

512 — 514

Fig. 5

Title: SYSTEM AND METHOD FOR RECOVERING FROM A FAILED SYNCHRONIZATION SESSION
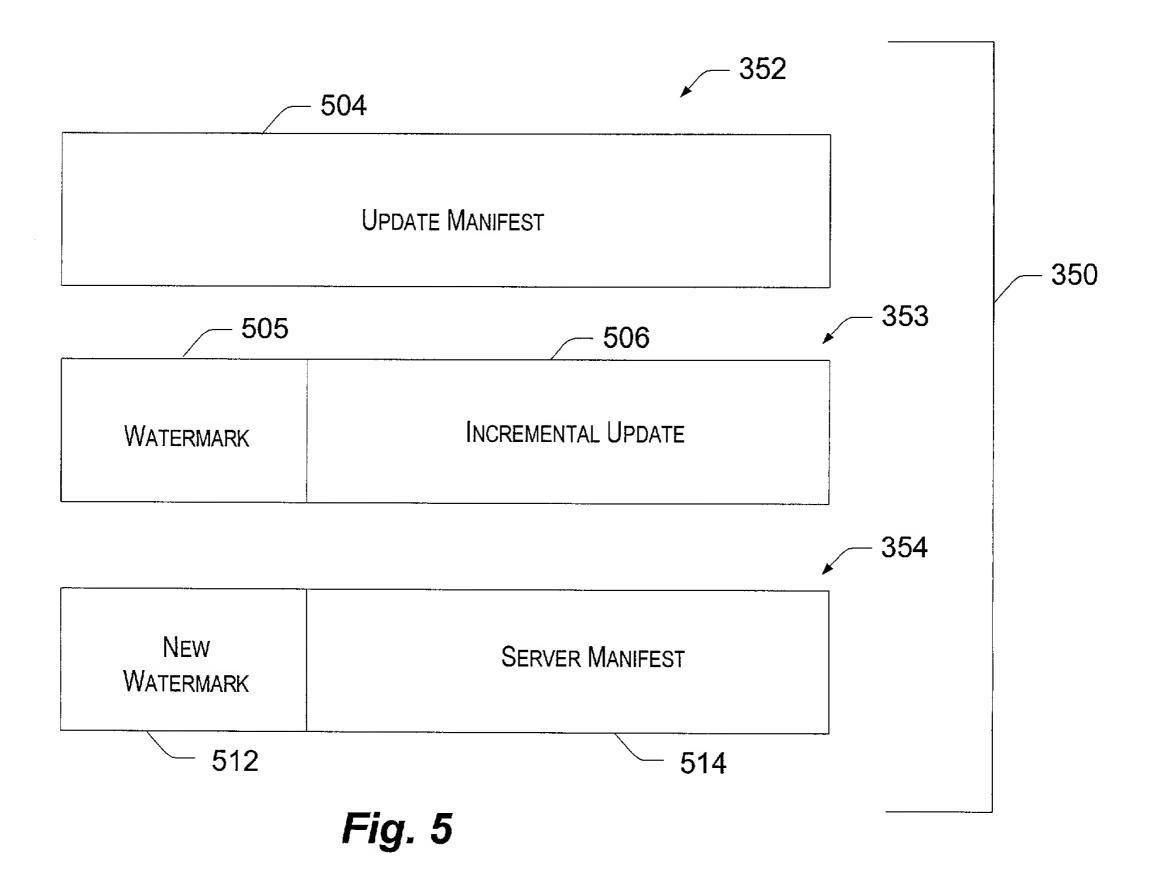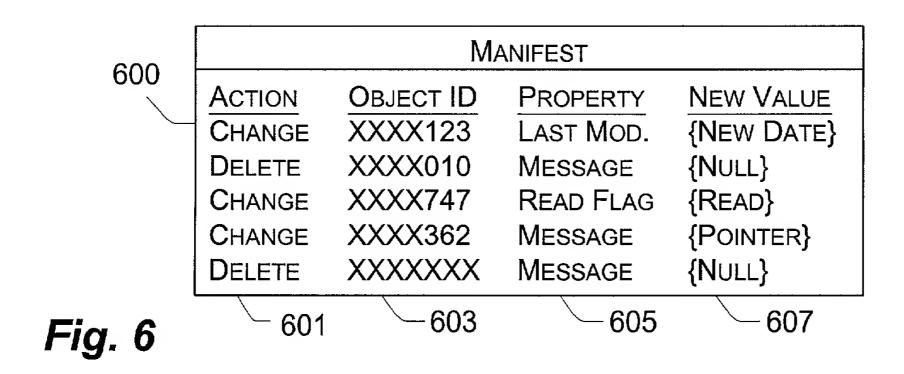Inventors: Chen et al.
Docket No: M&G 50037.11US01

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600

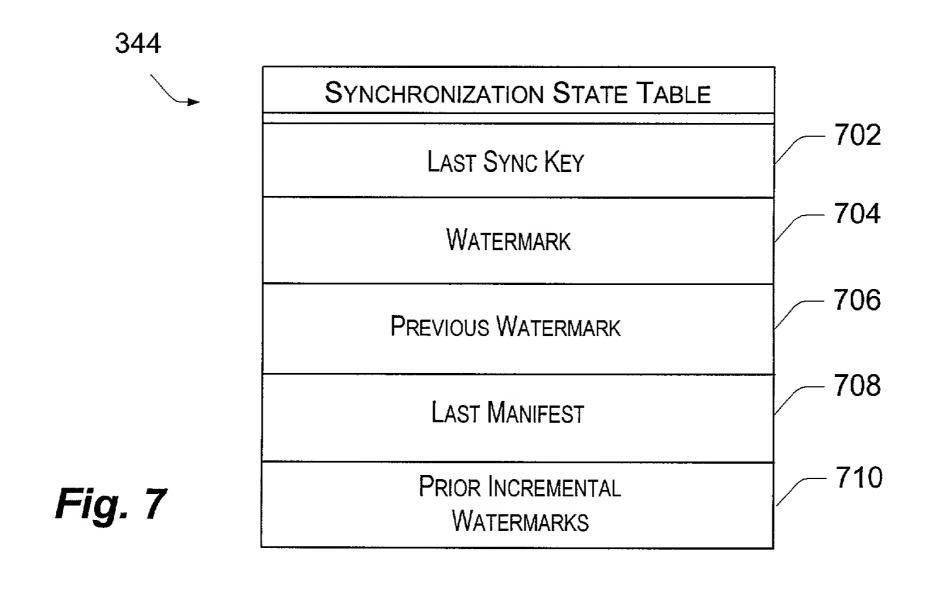| MANIFEST			
ACTION	OBJECT ID	PROPERTY	NEW VALUE
CHANGE	XXXX123	LAST MOD.	{NEW DATE}
DELETE	XXXX010	MESSAGE	{NULL}
CHANGE	XXXX747	READ FLAG	{READ}
CHANGE	XXXX362	MESSAGE	{POINTER}
DELETE	XXXXXXX	MESSAGE	{NULL}

601   603   605   607

Fig. 6

344

SYNCHRONIZATION STATE TABLE
LAST SYNC KEY
WATERMARK
PREVIOUS WATERMARK
LAST MANIFEST
PRIOR INCREMENTAL WATERMARKS

702
704
706
708
710

Fig. 7

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800

OVERVIEW OF
SYNCHRONIZATION
PROCESS WITH SYNC
RECOVERY

Fig. 8

BEGIN

801

RECIEVE CLIENT
REQUEST

802

TEST FOR
SYNCHRONIZATION
FAILURE
(FIG. 9)

804

SYNC
FAILURE DETECTED
?

806

Yes

No

PERFORM SYNC
RECOVERY
PROCESS
(FIG. 10)

808

PERFORM SYNC
PROCESS

810

SEND CLIENT
RESPONSE

812

END

814

Title: SYSTEM AND METHOD FOR RECOVERING FROM A FAILED SYNCHRONIZATION SESSION
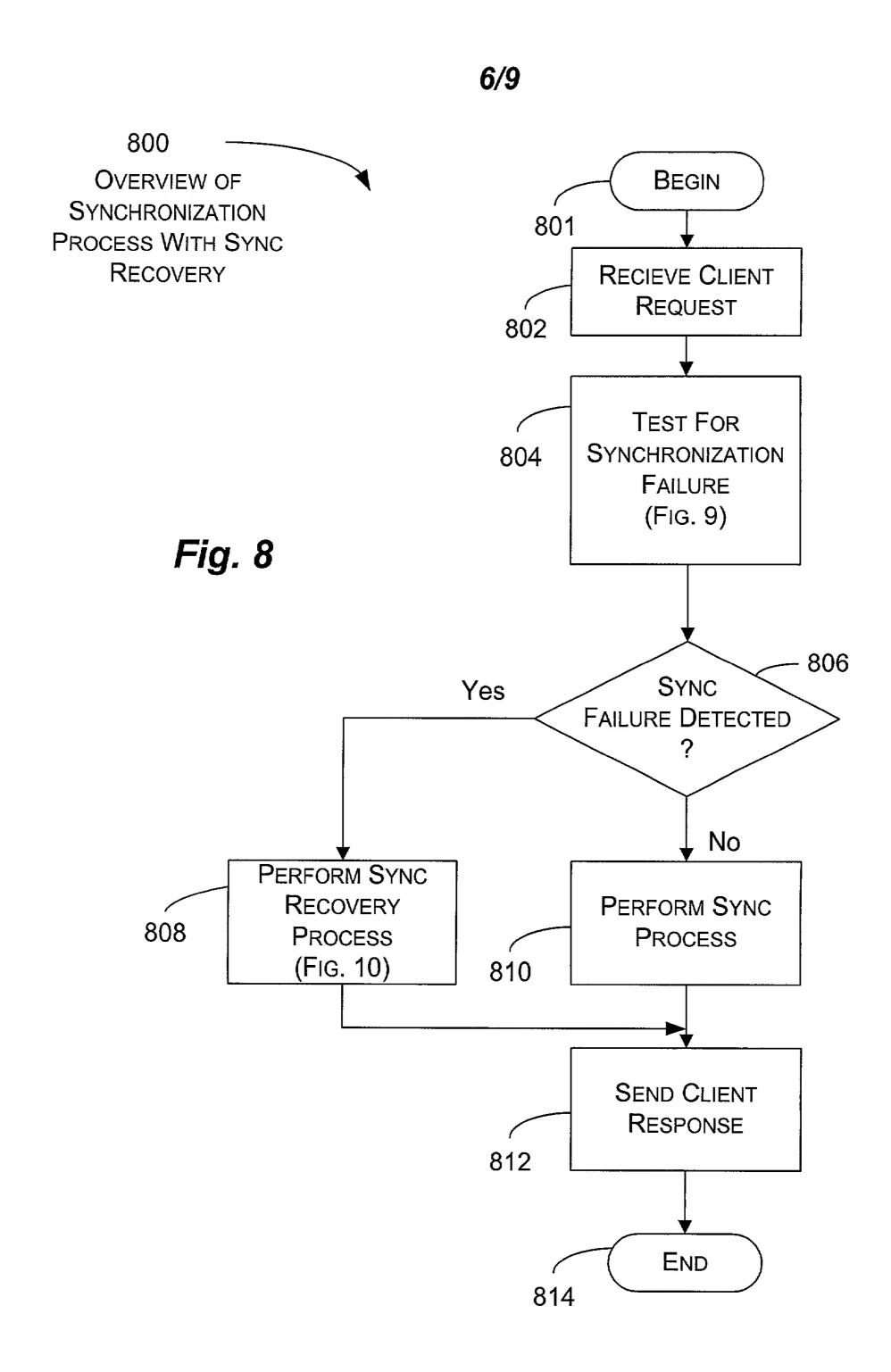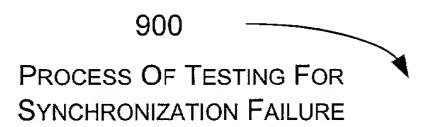Inventors: Chen et al.
Docket No: M&G 50037.11US01

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900

PROCESS OF TESTING FOR
SYNCHRONIZATION FAILURE

Fig. 9

BEGIN

901

READ SYNC STATE
TABLE

902

COMPARE LAST
SYNC KEY WITH
SYNC KEY IN CLIENT
REQUEST

904

RETURN

906

Title: SYSTEM AND METHOD FOR RECOVERING FROM A FAILED SYNCHRONIZATION SESSION
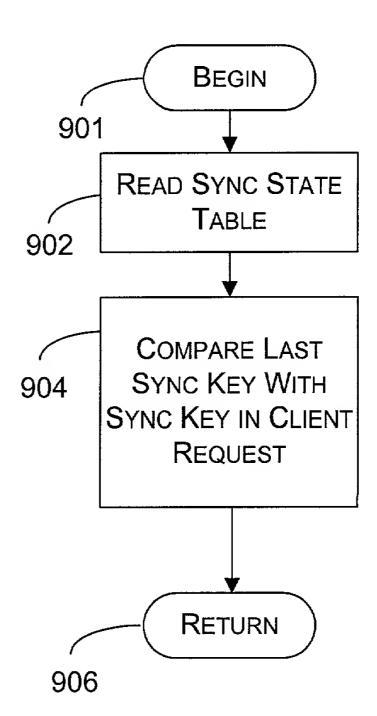Inventors: Chen et al.
Docket No: M&G 50037.11US01

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1000

SYNCHRONIZATION
RECOVERY PROCESS

Fig. 10

BEGIN

1001

CREATE UPDATE
MANIFEST
(FIG. 11)

1002

GET SERVER
CHANGE MANIFEST
AND OPTIONALLY
PERFORM CONFLICT
RESOLUTION

1004

SEND UPDATE
MANIFEST TO
SERVER

1006

RECEIVE SERVER
RESPONSE

1008

UPDATE SYNC
STATE TABLE

1010

RETURN

1012

Title: SYSTEM AND METHOD FOR RECOVERING FROM A FAILED SYNCHRONIZATION SESSION
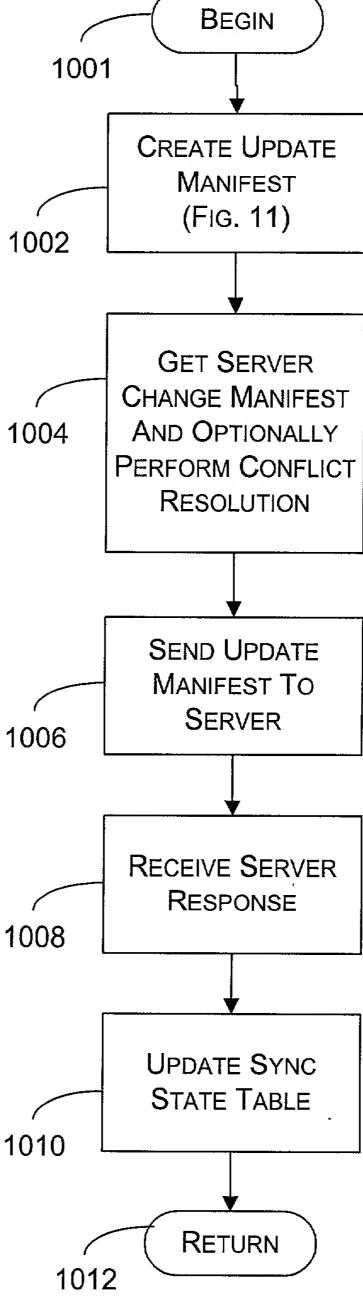Inventors: Chen et al.
Docket No: M&G 50037.11US01

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1100 / 1102 / 1104 / 1106 / 1108 / 1110

CASE	LAST SAVED MANIFEST	CURRENT MANIFEST	UPDATE MANIFEST	CRITERIA FOR CREATING THE UPDATE MANIFEST
1	ADD	ADD	ADD OR CHANGE	IF SERVERID IN RST, RESUBMIT AS CHANGE. IF SERVER ID DOES NOT EXIST, SUBMIT THE ADD
2	ADD	CHANGE	NONE	SEND ERROR TO CLIENT
2.5	ADD	DELETE	NONE	SEND ERROR TO CLIENT
3	ADD	OBJECT INEXISTENT	DELETE	NEWLY ADDED OBJECT IS DELETED, RESUBMIT AS DELETE
4	DELETE	ADD	NONE	SEND ERROR TO CLIENT
5	DELETE	DELETE	DELETE	SUBMIT AS DELETE, IN CASE SERVER FAILED PRIOR TIME
6	DELETE	CHANGE	NONE	SEND ERROR TO CLIENT
7	CHANGE	ADD	NONE	SEND ERROR TO CLIENT
8	CHANGE	CHANGE	CHANGE	SUBMIT AS CHANGE IN ORDER TO UPDATE ANY DIFFERENCES
9	CHANGE	DELETE	DELETE	SUBMIT AS DELETE
10	DELETE	O-N-E	NONE	DO NOTHING (ERROR CASE; BUT NOTHING SENT TO THE CLIENT)
11	CHANGE	O-N-E	NONE	DO NOTHING (ERROR CASE; BUT NOTHING SENT TO THE CLIENT)
12	O-N-E	ADD	ADD	PERFORM THE NEW ADD OPERATION
13	O-N-E	CHANGE	CHANGE	PERFORM THE NEW CHANGE OPERATION
14	O-N-E	DELETE	DELETE	PERFORM THE NEW DELETE OPERATION

1120 1122 1123 1124 1126 1128 1130 1132 1134 1136

Fig. 11